AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-69. (Cancelled).

70. (Previously presented) A cooling system for a computer system processing unit, comprising:

an integrated element and a heat radiator, wherein the integrated element comprises a heat exchanging interface, a reservoir, and a pump;

wherein the reservoir is adapted to receive a cooling liquid from an inlet and pass the cooling liquid to an outlet, the reservoir comprising a plurality of channels adapted to direct flow of the cooling liquid across the heat exchanging interface;

the heat radiator is connected between the outlet and the inlet and is adapted to exhaust heat from the cooling liquid;

the heat exchanging interface is adapted to provide thermal contact between the processing unit and the cooling liquid, such that heat is dissipated from the processing unit to the cooling liquid as the cooling liquid passes across the heat exchanging interface; and

the pump is adapted to pump the cooling liquid through the reservoir and the heat radiator, and the pump comprises an impeller mechanically integrated with a pump rotor, wherein the impeller is submerged in the cooling liquid and is adapted to communicate the cooling liquid into the plurality of channels.

71. (Previously presented) The cooling system of claim 70, wherein the impeller is disposed in a recess sized in relation to a diameter of the impeller, and comprising a recess inlet and a recess outlet, wherein the impeller is further adapted to pass the cooling liquid from the recess inlet, through the recess outlet and into the plurality of channels.

72. (Previously presented) The cooling system of claim 71, wherein the plurality of channels are formed integral to the reservoir or integral to the inner surface of the heat exchanging interface.

73. (Previously presented) The cooling system of claim 70, wherein the pump is disposed entirely within the reservoir.

74. (Previously presented) The cooling system of claim 70, wherein the pump is disposed at least partially outside the reservoir.

75. (Previously presented) The cooling system of claim 71, wherein the recess inlet is disposed proximate the heat exchanging interface and is structurally adapted to generate a turbulent flow of cooling liquid across the heat exchanging interface.

76. (Previously presented) The cooling system of claim 71, wherein the recess outlet is disposed proximate the heat exchanging interface and is structurally adapted to generate a turbulent flow of cooling liquid across the heat exchanging interface.

77. (Previously presented) The cooling system of claim 70, wherein the pump comprises a pumping member disposed proximate the heat exchanging interface and is structurally adapted to generate a turbulent flow of cooling liquid across the heat exchanging interface.

78. (Previously presented) The cooling system of claim 70, wherein the pump comprises one selected from a group consisting of: a bellows pump, centrifugal pump, diaphragm pump, drum pump, flexible liner pump, flexible impeller pump, gear pump, peristaltic tubing pump, piston pump, processing cavity pump, pressure washer pump, rotary lobe pump, rotary vane pump and electro-kinetic pump.

79. (Previously presented) The cooling system of claim 70, wherein the pump comprises driving means driving the pump, the driving means comprising one selected from a groups consisting of: an electrically-operated rotary motor, a piezo-electrically operated motor, permanent magnet-operated motor, fluid-operated motor, and capacitor-operated motor.

80. (Previously presented) The cooling system of claim 79, wherein the driving means is further adapted to drive a fan associated with the reservoir.

81. (Previously presented) The cooling system of claim 79, wherein the driving means is further adapted to drive a fan associated with the heat radiator.

82. (Previously presented) The cooling system of claim 79, wherein the driving means is further adapted to drive a fan associated with the reservoir and a fan associated with the heat radiator.

83. (Previously presented) The cooling system of claim 70, wherein the reservoir further comprises a segmented heat sink disposed in thermal contact with the cooling liquid.

84. (Previously presented) The cooling system of claim 70, wherein the heat exchanging interface comprises a surface disposed in close thermal contact with the processing unit.

85. (Previously presented) The cooling system of claim 70, where the heat exchanging interface comprises a surface of the processing unit disposed in direct contact with the cooling liquid.

86. (Previously presented) The cooling system of claim 70, wherein the heat exchanging interface comprises an element adapted such that when secured to the

reservoir the element comprises a part of the reservoir, and further adapted to be separable from the reservoir.

87. (Currently amended) The cooling system of claim 70, wherein the heat exchanging interface comprises an ~~integrate~~ integrated part of the reservoir disposed in close thermal contact with the processing unit.

88. (Currently amended) The cooling system of claim ~~1~~70, wherein the reservoir comprises an aperture exposing the cooling liquid, and wherein the heat exchanging interface comprises a surface of the processing unit adapted to fit into the aperture, such that the surface is disposed in direct contact with the cooling liquid.

89. (New) A cooling system for an electronic component coupled to a motherboard of a computer system having a heat sink retention mechanism, the retention mechanism including a frame coupled to the motherboard and a brace configured to lockingly attach with the frame, comprising:

a reservoir configured to be coupled to the electronic component using the brace and the frame, the reservoir including,

a heat exchange interface in thermal contact with the electronic component;

an inlet, an outlet, and a chamber fluidly coupled to the inlet and the outlet;

a pump configured to circulate a cooling liquid from the inlet to the outlet; and

a heat radiator fluidly coupled to the inlet and the outlet.

90. (New) A cooling system of claim 89 wherein the brace is configured to rest on a surface of the reservoir opposite the heat exchange interface and the reservoir is configured to press towards the electronic device when the brace and the frame lockingly engage.

91. (New) The cooling system of claim 89, further including a fan configured to direct air over the heat radiator, wherein the cooling system is configured to independently vary a speed of the pump and a speed of the fan in response to a change in cooling requirements of the computer system.

92. (New) The cooling system of claim 89, wherein at least an impeller of the pump is disposed in the reservoir.

93. (New) The cooling system of claim 89, wherein the pump is disposed in the reservoir, the pump including an impeller and a motor driving the impeller.

94. (New) The cooling system of claim 89, wherein the reservoir includes a plurality of channels

95. (New) A cooling system for a heat generating electronic component of a computer system including a retention mechanism, comprising:

a reservoir lockingly coupled to the electronic component by the retention mechanism, the reservoir being configured to pass a cooling liquid therethrough to remove at least a part of the heat generated by the electronic component;

a pump configured to circulate the cooling liquid between the reservoir and a heat radiator, at least an impeller of the pump being positioned in the reservoir and the speed of the pump configured to be changed in response to a change in a cooling requirement of the computer system; and

a fan configured to direct a stream of air over the heat radiator, the speed of the fan being configured to be changed independent of the speed of the pump to respond to the change in cooling requirement.

96. (New) The cooling system of claim 95, wherein the speed of the pump and the speed of the fan are independently varied to respond to the change in cooling requirement while minimizing a noise generated by the cooling system.